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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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DEC 22 2003

Ex Parte: GARY M. RAPPS

Application Number: 10/017,957

Technology Center 2600

Filing Date: 12/14/01

Title: SELF-RETAINING ELEMENT FOR
A BEHIND-THE-EAR
COMMUNICATION DEVICE

Group: 2643

Examiner: TRAN, SINH N.

BRIEF ON BEHALF OF APPELLANT(S)

12/22/2003 MDANTE1 00000042 502117 10017957

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APPEAL BRIEF

I. Real Party and Interest

The undersigned, Barbara R. Doutre, Attorney for the Appellant(s), GARY M. RAPPS, certifies the following:

The name of the real party in interest is Motorola, Inc., a Delaware corporation.

II. Related Appeals and Interferences

No appeals or interferences are currently pending.

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III. Status of Claims

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On 10/29/03, Appellants appealed from the final rejection of claims 1-18 of the above-captioned application.

Claims of record 1-18 are on appeal. All amendments to these claims made during prosecution before the Examiner have been entered.

The claims on appeal are set forth in the attached Appendix A for ready reference.

IV. Status of Amendments

There have not been any amendments to the claims filed subsequent to the final rejection, dated July 8, 2003.

Amendments to the Specification and Drawings were made in Applicant's Response After Final Rejection under 37 C.F.R. 1.116, dated September 17, 2003. The proposed amendments were entered by the Examiner for the purposes of Appeal according to the Advisory Action dated October 8, 2003. A copy of the Response after Final Rejection is attached as Appendix B. A copy of the Applicant's Response to the Initial Office Action is attached as Appendix C.

V. Summary of the Invention

A communication device (300) for use behind an ear (200) is disclosed that comprises a housing (302), a sound delivery tube (310), and a self-retaining element (316). The sound delivery tube (310) is coupled to the housing (302). The self-retaining element (316) is coupled to at least one of the housing (302) and the sound delivery tube (310). The self-retaining element (316) rests beneath an inferior crus (216) of the ear (200) and provides positive retention of the communication device (300) to the ear (200) when the sound delivery tube (310) is positioned for non-occluded sound delivery to the ear. This form factor provides a comfortable fit across a wide variety of users.

VI. Issues

(a) Whether claims 1-5, 7, 11, 13 and 15-18 are anticipated by Strzalkowski (3,035,127) under 35 U.S.C. §102.

(b) Whether claims 1, 6-7, 10-13 and 15 are anticipated by Stevens (4,864,610) under 35 U.S.C. §102.

(c) Whether claims 8-9 and 14 are obvious over Strzalkowski or Stevens under 35 U.S.C. §103.

VII. Grouping of the Claims

Claims 1 through 18 stand or fall together. The claims on appeal have been rejected under §102 and §103. Independent claim 1 is the only independent claim. Claims 2-18 inclusive depend directly or indirectly on claim 1.

VII. Argument

(a) Whether claims 1-5, 7, 11, 13 and 15-18 are anticipated by Strzalkowski (3,035,127) under 35 U.S.C. §102.

The main point of issue is the self retaining element of Applicant's independent claim 1. Claim 1 includes "... a self-retaining element, coupled to at least one of the housing and the sound delivery tube, wherein the self-retaining element rests beneath an inferior crus of the ear and provides positive retention of the communication device to the ear when the sound delivery tube is positioned for non-occluded sound delivery to the ear."

The Examiner bases his rejection upon FIG. 25 of Strzalkowski which has a corresponding description in column 5, lines 69-75 and column 6, lines 1-7. The Examiner states, on page 3, item 4 of the Final Office Action that Strzalkowski discloses "... a self retaining element (359) coupled to the sound delivery tube, wherein the self retaining element (359) rests beneath an inferior crus of the ear (FIG. 25) and provides retention of the device to the ear when the sound tube is positioned for non-occluded sound delivery (opening 84)".

Firstly, Applicant maintains that the Strzalkowski reference fails to teach or suggest a self retaining element. That which the Examiner equates to a self retaining element is really an ear canal insert (359), as shown in FIG. 25 and mentioned in col. 6, line 3. There is no teaching or suggestion in Strzalkowski that this ear canal insert (359) provides self retention. *? retain in ear when used.*

Secondly, even if the ear canal insert (359) did provide self retention, it does not rest beneath the inferior crus of the ear, but rather fills and plugs the entire concha bowl including the much smaller ear canal opening as shown in FIG. 25. The very name "ear canal insert" implies that the element goes into the ear canal, whereas Applicant's self retaining element rests beneath the inferior crus of the ear.

in the canal → still rest beneath the inferior crus

Thirdly, Applicant questions whether the sound admission ports (84) of Strzalkowski would be sufficient to provide a non-occluded environment in that the ear canal opening is obstructed with the ear canal insert (359). In column 6, lines 4-7 Strzalkowski teaches the ear canal insert (359) has its pressure relief and direct sound admission ports (84) disposed in annular series around the tube (83). However, the mere insertion of the ear canal insert (359) applies pressure to the walls around the holes thereby closing them off and self-defeating any non-occluding function. (3) might be during insertion but not when used

For the reasons stated above Applicant's submits that the Examiner has incorrectly rejected independent claim 1 under 35 U.S.C. §102 and requests the Board to find that Applicant's independent claim 1 and dependent claims 2-5, 7, 11, 13 and 15-18 are patentable.

(b) Whether claims 1, 6-7, 10-13 and 15 are anticipated by Stevens (4,864,610) under 35 U.S.C. §102.

Here again, the issue is the self retaining element. The Examiner stated, on page 4, item 6 of the Final Office Action dated July 8, 2003 that Stevens discloses a self retaining element (23, col. 3, lines 48-49) coupled to the sound delivery tube, wherein the self-retaining element rests beneath an inferior crus of the ear (FIG. 1 or 3) and provides retention of the device to the ear when the sound tube is positioned for non-occluded sound delivery (ear cushion 23 dissipates sound, col. 3 lines 30-32; therefore render it non-occluded sound delivery).

The Stevens reference fails to teach a self retaining element as claimed by Applicant's invention. The Stevens reference teaches and claims in claim 1 using "a conically shaped ear cushion (23) formed of compressible foam" to secure the sound tip (22) of the sound tube (20) in the user's ear. Applicant argues that this foam cushion operates as a plug that can easily be dislodged. Steven's ear cushion (23) does not rest beneath an inferior crus of the ear as claimed in Applicant's invention. In column 3, lines 57-68 through col. 4, lines 1-4, Stevens teaches that the diameter of the cushion (23) corresponds to the diameter of the entrance of the auditory canal and that the remainder of the cushion is selected so that it will fit within the outer ear, or more

specifically the cavum concha (32) of the outer ear while being supported by surrounding cartilage. As shown in FIGS. 1 and 3 of Stevens and taught in column 4, lines 1-4, the outer surface of the cushion (23) is wedged between the tragus (34), antitragus (36) and the curls of the helix (38).

Also, as noted in col. 4, lines 5-7, Stevens must offer different size cushions because the size of the cavum concha varies from person to person. Applicant's invention has no such requirement. This advantage was described in the Specification on page 3, lines 18-21 where "[t]he form factor... provides universal comfort and fit for ears of different shapes and sizes, across a major portion of the population."

For the reasons stated above, Applicant submits that the Examiner has incorrectly rejected independent claim 1 under 35 U.S.C. §102 and requests the Board to find that Applicant's independent claim 1 and dependent claims 6-7, 10-13 and 15 are patentable.

(c) Whether claims 8-9 and 14 are obvious over Strzalkowski or Stevens under 35 U.S.C. §103.

As stated above the Strzalkowski and Stevens references are clearly distinguishable from the claimed invention in that each fails to provide a self retaining element as taught and claimed by Applicant's invention. Claims 8, 9, and 14 are all dependent claims providing further limitations to independent claim 1 and as such should be allowed. Additionally, in rejecting claims 8, 9, and 14 the Examiner does not specifically cite anything in the prior art for basing his rejection. As to claim 8, the Examiner admits that Strzalkowski fails to disclose that the device is an ear mold and that Strzalkowski fails to teach that the device is molded on to the sound delivery tube. Final Action, at page 4. As to claim 9, the Examiner admits that Strzalkowski fails to disclose the element as a spring curve. Final Action, at page 5. As to claim 14, the Examiner admits that Strzalkowski or Stevens fails to teach that the communication device is wireless. Final Action, at page 5. In all of the §103 rejections, the Examiner simply states that these would be obvious to one skilled in the art. Neither reference teaches or suggests any of the limitations of the dependent claims. There is no motivation or suggestion in either of the cited references to suggest a self-retaining

element molded onto a sound delivery tube or a self-retaining element comprising one of: an "S" shape spring curve or a "J" shape spring curve. Accordingly, Applicant requests the Board to find that Applicant's dependent claims 8-9 and 14 are patentable.

IX. Conclusion


In view of the arguments above, the present anticipation and obviousness rejections are not supported by the prior art of record. Reversal of the rejection of all claims is earnestly urged.

Respectfully submitted,

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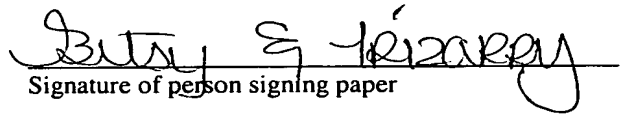


10/017,957

CERTIFICATE OF MAILING

Date of Deposit: 12/17/03

I hereby certify that this paper, in triplicate, is being deposited with the United States Postal Service on the date indicated above as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313, Attn: Patent Board of Appeals and Interferences.


Signature of person signing paper

Betsy E. Irizarry
Printed name of person signing paper

APPENDIX A

CLAIMS ON APPEAL

1. A communication device for use behind an ear, comprising:
a housing;
a sound delivery tube coupled to the housing; and
a self-retaining element, coupled to at least one of the housing and the sound delivery tube,
wherein the self-retaining element rests beneath an inferior crus of the ear and provides positive retention of the communication device to the ear when the sound delivery tube is positioned for non-occluded sound delivery to the ear.
2. The communication device of claim 1 wherein the self-retaining element comprises compound curves in two planes.
3. The communication device of claim 2 wherein the compound curves of the self-retaining element fits anatomically into an inferior crus fold in a concha bowl.
4. The communication device of claim 1 wherein the self-retaining element contacts skin inside a fold in a concha bowl beneath the inferior crus of the ear.
5. The communication device of claim 1 wherein the self-retaining element provides positive retention to the ear on an x-axis, a y-axis and a z-axis.

6. The communication device of claim 1 wherein the self-retaining element comprises spring properties.
7. The communication device of claim 1 wherein the self-retaining element is positioned approximately ninety degree with respect to the sound delivery tube.
8. The communication device of claim 1 wherein the self-retaining element is molded onto the sound delivery tube.
9. The communication device of claim 1 wherein the self-retaining element comprises one of the following: an "S" shape spring curve, and a "J" shape spring curve.
10. The communication device of claim 1 wherein the self-retaining element is flexible.
11. The communication device of claim 1 wherein the self-retaining element is semi-rigid.
12. The communication device of claim 1 wherein the self-retaining element is constructed from a material selected from a group consisting of: rubber, plastic, and metal.
13. The communication device of claim 1 wherein the self-retaining element, when positioned on the ear, applies positive retention across the pinna of the ear between the sulcus and the concha.

14. The communication device of claim 1 wherein the communication device is wireless.
15. The communication device of claim 1 wherein the communication device is wired.
16. The communication device of claim 1 wherein the housing has a first section that rests on a sulcus of the ear, and wherein the positive retention of the communication device to the ear results from a space between the first section of the housing and the self-retaining element.
17. The communication device of claim 16 wherein a dimension across the space between the first section of the housing and the self-retaining element is 0.118 inches +/- .054.
18. The communication device of claim 16 wherein the space between the first section of the housing and the self-retaining element becomes gradually smaller as the self-retaining element extends further away from the sound delivery tube.

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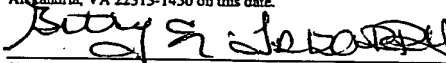
UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|--------------|---|------------------|---------------|
| APPLICANT(S) | RAPPS, GARY M. | GROUP ART UNIT: | 2643 |
| APPLN. NO.: | 10/017,957 | EXAMINER: | TRAN, SINH N. |
| FILED: | 12/14/01 | Confirmation No. | 7541 |
| TITLE: | SELF-RETAINING ELEMENT FOR A BEHIND-THE-EAR COMMUNICATION DEVICE | | |

Certificate of Mailing

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I hereby certify that this paper is being deposited with the United States Postal Service on the date indicated above, as first-class mail, with sufficient postage attached thereto, in an envelope addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date.



Signature of Person Mailing Paper

Betsy E. Izazary

Printed Name of Person Mailing Paper

RESPONSE AFTER FINAL REJECTION

UNDER 37 C.F.R. §1.116

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Office Action dated 7/8/03, Paper No. 5, and Examiner's comments with regard thereto, please enter the following amendments after final action under 37 C.F.R. §1.116, in the above-entitled application, without prejudice or disclaimer.

AMENDMENTS TO THE SPECIFICATION:

On page 7, first paragraph lines 3-12 (previously amended, should further be amended as follows:

The first section 318 of the housing rests on the sulcus 218 of the ear, and the positive retention of the communication device to the ear results from a space between the first section and the self-retaining element 316. An anatomical ear thickness measurement study was performed on fifty-eight participants, including men and women ranging from 88 to 296 pounds. The average thickness measured between the sulcus 218 and the cimba conchae 220 under the inferior crus 216 was 0.118 inches, with a deviation of +0.027 and -0.020 inches. This range is easily accommodated because of the flexible properties of the self-retaining element 316. The preferred dimension across the space between the first section 318 of the housing and the self-retaining element 316 is 0.118 inches +/- .054. The space between the first section 318 of the housing and the self-retaining element 316 becomes gradually smaller 502, 504, 506 as the self-retaining element 316 extends further away from the sound delivery tube 310. Referring back to FIG. 4, the "S" shape self-retaining element 316 is designed specifically to conform to the range of thickness. The shape of the self-retaining element 316 consists of a broad spring contacting area designed to minimize the force in any one area, increasing user comfort.

AMENDMENTS TO THE DRAWINGS:

1. A proposed drawing correction has been submitted adding designator 318 to FIG. 3.
2. A proposed drawing correction has been submitted adding designators 310 (with cross-hatching), 502, 504, and 506 to FIG. 5.
3. An extra designator 218 was removed from FIG. 5.

AMENDMENTS TO THE CLAIMS:

1. (Previously Amended) A communication device for use behind an ear, comprising:
a housing;
a sound delivery tube coupled to the housing; and
a self-retaining element, coupled to at least one of the housing and the sound delivery tube,

wherein the self-retaining element rests beneath an inferior crus of the ear and provides positive retention of ^{housing} the communication device to the ear when the sound delivery tube is positioned for non-occluded sound delivery to the ear. *+ extend above the ear canal, leaving the ear canal unblocked*

2. (Original) The communication device of claim 1 wherein the self-retaining element comprises compound curves in two planes.
3. (Original) The communication device of claim 2 wherein the compound curves of the self-retaining element fits anatomically into an inferior crus fold in a concha bowl.
4. (Original) The communication device of claim 1 wherein the self-retaining element contacts skin inside a fold in a concha bowl beneath the inferior crus of the ear.
5. (Original) The communication device of claim 1 wherein the self-retaining element provides positive retention to the ear on an x-axis, a y-axis and a z-axis.
6. (Original) The communication device of claim 1 wherein the self-retaining element comprises spring properties.
7. (Original) The communication device of claim 1 wherein the self-retaining element is positioned approximately ninety degree with respect to the sound delivery tube.

8. (Original) The communication device of claim 1 wherein the self-retaining element is molded onto the sound delivery tube.
9. (Original) The communication device of claim 1 wherein the self-retaining element comprises one of the following: an "S" shape spring curve, and a "J" shape spring curve.
10. (Original) The communication device of claim 1 wherein the self-retaining element is flexible.
11. (Original) The communication device of claim 1 wherein the self-retaining element is semi-rigid.
12. (Original) The communication device of claim 1 wherein the self-retaining element is constructed from a material selected from a group consisting of: rubber, plastic, and metal.
13. (previously Amended) The communication device of claim 1 wherein the self-retaining element, when positioned on the ear, applies positive retention across the pinna of the ear between the sulcus and the concha.
14. (Original) The communication device of claim 1 wherein the communication device is wireless.
15. (Original) The communication device of claim 1 wherein the communication device is wired.
16. (Original) The communication device of claim 1 wherein the housing has a first section that rests on a sulcus of the ear, and wherein the positive retention of the communication device to the ear results from a space between the first section of the housing and the self-retaining element.

17. (Original) The communication device of claim 16 wherein a dimension across the space between the first section of the housing and the self-retaining element is 0.118 inches +/- .054.

18. (Original) The communication device of claim 16 wherein the space between the first section of the housing and the self-retaining element becomes gradually smaller as the self-retaining element extends further away from the sound delivery tube.

REMARKS

Claims 1-18 remain in the application.

Reconsideration of this application is respectfully requested.

Corrections to the drawings, shown in "red," are enclosed for approval by the Examiner.

It is respectfully requested that the submission of corrected formal drawings be delayed until such time as the application is deemed to be in condition for allowance.

Objection to the Drawings:

1. Objection under 37CFR 1.84(p)(5)

A proposed drawing correction has been submitted adding designator 318 to FIG. 3. The objection is believed to be overcome.

2. Objection under 37 CFR 1.83(a)

A proposed drawing change has been submitted adding designators 310, 318, 502, 504 and 506 to FIG. 5 to more clearly indicate the gradual space change between the first section 318 of the housing and the self-retaining element 316. No new matter has been added. Support for these drawing changes is found in claim 18 and the specification on page 7, lines 3-12 (as amended). As seen in updated FIG. 5, the space between the first section 318 of the housing and the self-retaining element 316 becomes gradually smaller 502, 504, and 506 as the self-retaining element 316 extends further away from the sound delivery tube 310 (now shown as cross-hatched). Accordingly, the objection is believed to be overcome.

Claim Rejections - 35 U.S.C. § 102(b):

Claims 1-5, 7, 11, 13 and 15-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Strzalkowski (3,035,127).

Claims 1, 6-7, 10-13 and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Stevens (4,864,610).

Applicants respectfully traverse the rejections.

The Strzalkowski reference fails to teach or suggest any self retaining mechanism.

Strzalkowski teaches in FIG. 25, feature 359 as an ear canal insert and makes no reference or claim to this feature providing any self retention properties. The ear canal insert of Strzalkowski is molded to the individual's ear concha bowl for the purpose of filling the entire concha bowl cavity. Applicant teaches and claims in independent claim 1, "...the self-retaining element rests beneath inferior crus of the ear...". Applicant's use of the inferior crus is the only area of contact with the ear that provides self-retention. Additionally, Strzalkowski only refers to "... a secure mounting upon the wearer's outer ear..." in column 6, lines 8-15 based on a skull temple fitting achieved through a procedure he refers to as an "auricolostomy". Skull temple fitting requires mating to a complex curved surface as the sulcus (groove behind the ear) intersects the mastoid process of the skull. The term "auricolostomy" as defined only by Strzalkowski is not a term well known in the surgical arts and apparently requires an incision to be made through the lower sulcus through which to pass an acoustic tube. Applicant's invention does not require a skull temple mating and does not require a surgical procedure to the human body and thus is far less invasive than Strzalkowski. Accordingly, the rejection under 102(b) is believed to be overcome.

The Stevens reference fails to teach self-retention. The Stevens reference teaches and claims in claim 1 using "a conically shaped ear cushion (23) formed of compressible foam" to secure the sound tip (22) of the sound tube (20) in the user's ear. This foam cushion operates as a plug that can be easily be dislodged. Also, as noted in col. 4, lines 5-7 of Stevens, in the commercial product a few different size cushions are offered because the size of the concha varies from person to person. Applicant's invention has no such requirement as supported in the Specification on page 3, lines 18-21 where "[t]he form factor... provides universal comfort and fit for ears of different shapes and sizes, across a major portion of the population." Accordingly, the rejection under 102(b) is believed to be overcome.

Claim Rejections - 35 U.S.C. § 103:

Claims 8-9 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Strzalkowski or Stevens.

Claims 8, 9, and 14 are all dependent claims providing further limitations to what is believed to be an allowable claim 1 and hence are also in condition for allowance.

Accordingly, this application is believed to be in proper form for allowance and an early notice of allowance is respectfully requested.

~~Please charge any fees associated herewith, including extension of time fees to 59-2117.~~

Respectfully submitted,

SEND CORRESPONDENCE TO:

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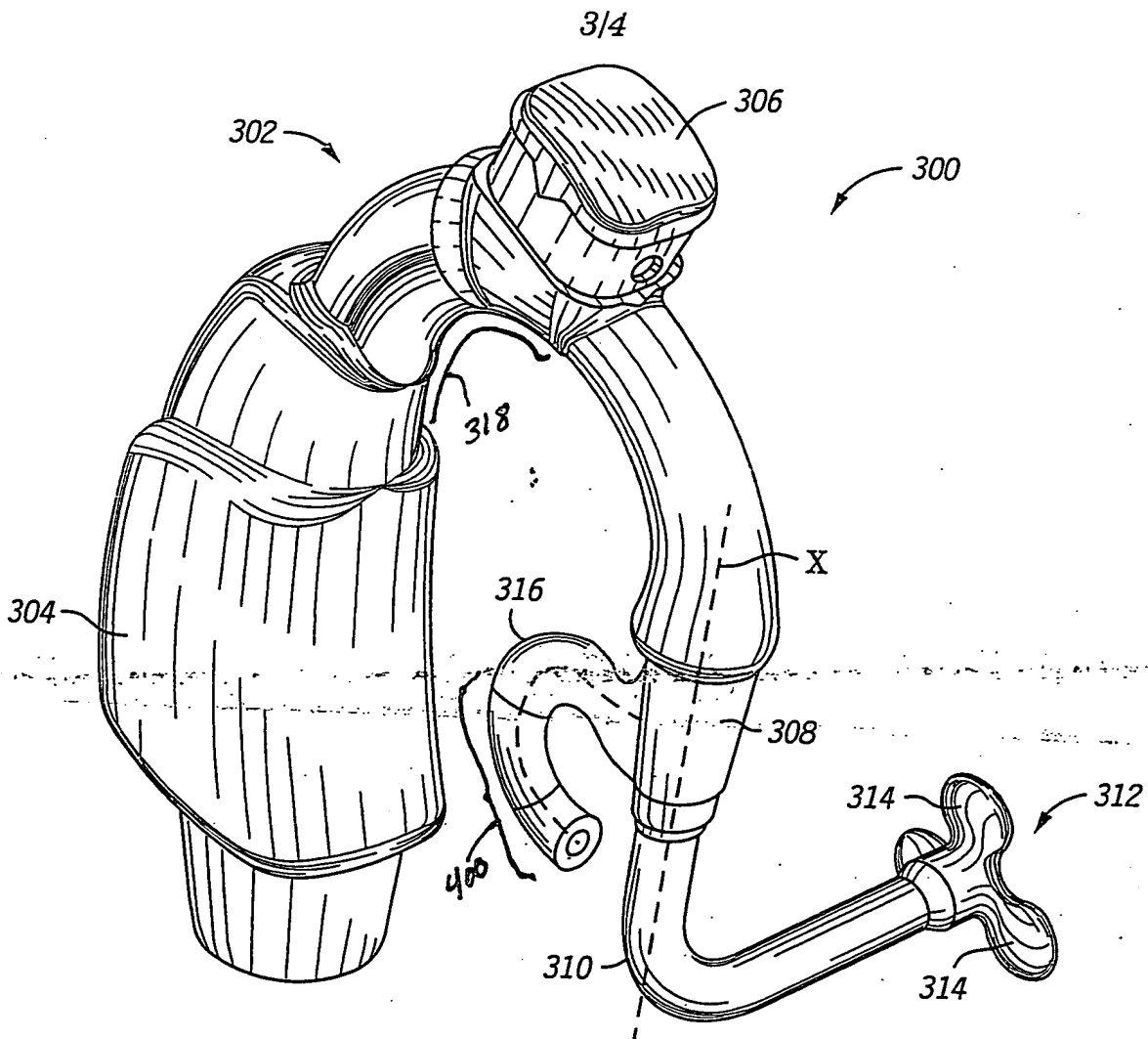


FIG. 3

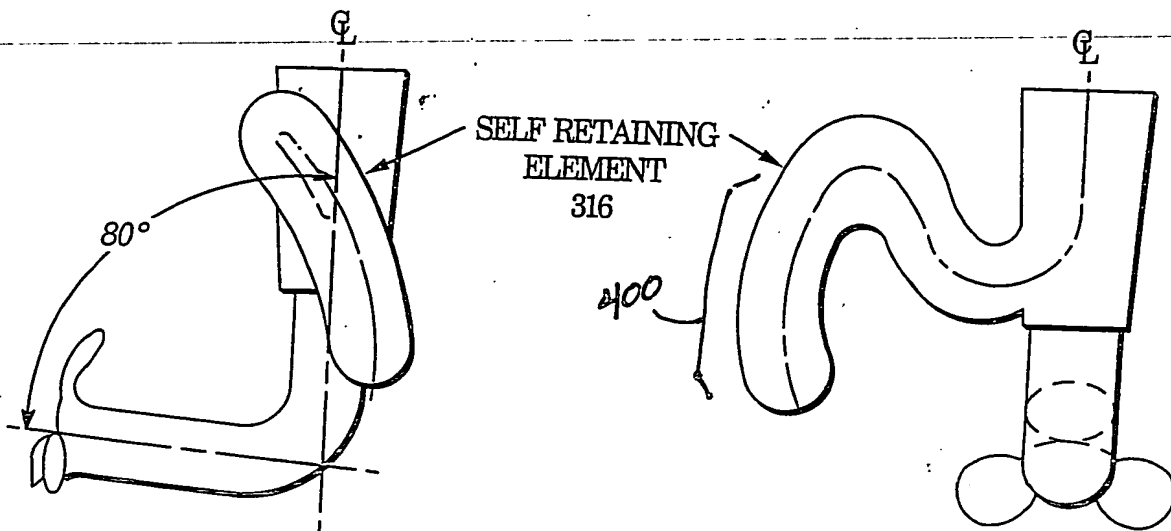


FIG. 4



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CM02023K

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) Gary M. Rapps
APPLN. NO.: 10/017,957
FILED: December 14, 2001
TITLE: SELF-RETAINING ELEMENT FOR A BEHIND-THE-EAR
COMMUNICATION DEVICE

GROUP ART UNIT: 2643
EXAMINER: TRAN, Sinh N.
Confirmation No. 7541

March 18, 2003

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Date of deposit: March 18, 2003

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Signature of Person Mailing Paper

Jerilyn S. Spocello

Printed Name of Person Mailing Paper

RESPONSE

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Responsive to the Office Action dated December 18, 2002, Paper No. 3, and Examiner's comments with regard thereto, please enter the following amendments in the above-entitled application, without prejudice or disclaimer.

IN THE SPECIFICATION:

Amend page 4 of the specification in the paragraph located between lines 14-20 as follows:

As shown in FIG. 3, the BTE communication device 300 comprises a hooked shaped housing having a form factor to fit around the typical human ear 200. The housing 302 houses electronic circuitry (not shown) 304, 306 that receives and processes audio signals. The housing 302 has a concave "inner" surface (also referred to as a first section 318) that fits behind and around a user's outer ear 200, i.e., the inner surface is that part of the exterior surface of the housing that abuts or makes contact with the sulcus 218 of the ear.

Amend page 6, beginning at line 28 for paragraph bridging pages 6-7 as follows:

The self-retaining element 316 contains compound curves in two planes that contribute to the way the fit and the coupling is achieved. When attached to the ear 200, the self-retaining element 316 causes a gentle pinch (i.e., squeeze) 500 across the pinna 204 between the outer (i.e., sulcus) 218 and inner (i.e., concha) 206 portions of the ear 200. The anatomically curved element 316 contacts the skin inside a fold in the concha bowl (i.e., cimba conchae) 220 just under the inferior crus 216. Due to the nature of the shape of the self-retaining element 316, it fits into the ear in a way that it provides positive retention with the ear's anatomy in the X-axis, the Y-axis, and the Z-axis, further enhancing retention. The area of contact is directly opposite the "surface of symmetry" 222 on the sulcus 218. There is a nominal space between the BTE communication device 300 and the self-retaining element 316 to allow for the natural thickness of the ear 200. The BTE communication device 300 is fully supported by its contact on the sulcus 218, and is "locked" onto the ear 200 by a gentle spring contact 400 provided by the self-retaining element 316 ~~400~~ as illustrated in FIGS. 4, 5 and 6. The thickness of this section between the sulcus 218 and the cimba conchae 220 happens to be another area in which there is very little anthropometric deviation across a wide range of ear sizes.

On page 7, first paragraph lines 3-12, should be amended as follows:

The first section 318 of the housing rests on the sulcus 218 of the ear, and the positive retention of the communication device to the ear results from a space between the first section and the self-retaining element 316. An anatomical ear thickness measurement study was performed on fifty-eight participants, including men and women ranging from 88 to 296 pounds. The average thickness measured between the sulcus 218 and the cimba conchae 220 under the inferior crus 216 was 0.118 inches, with a deviation of +0.027 and -0.020 inches. This range is easily accommodated because of the flexible properties of the self-retaining element 316. The preferred dimension across the space between the first section 318 of the housing and the self-retaining element 316 is 0.118 inches \pm 0.054. ~~The space between the first section 318 of the housing and the self-retaining element 316~~ becomes gradually smaller as the self-retaining element extends further away from the sound delivery tube. Referring back to FIG. 4, the "S" shape self-retaining element 316 is designed specifically to conform to the range of thickness. The shape of the self-retaining element 316 consists of a broad spring contacting area designed to minimize the force in any one area, increasing user comfort.

IN THE CLAIMS:Amend the claims as follows:

1. (Currently Amended) A communication device for use behind an ear, comprising:
a housing;
a sound delivery tube coupled to the housing; and
a self-retaining element, coupled to at least one of the housing and the sound delivery tube,
wherein the self-retaining element rests beneath an inferior crus of the ear and provides positive retention of the communication device to the ear when the sound delivery tube is positioned for non-occluded sound delivery to the ear.
2. (Original) The communication device of claim 1 wherein the self-retaining element comprises compound curves in two planes.
3. (Original) The communication device of claim 2 wherein the compound curves of the self-retaining element fits anatomically into an inferior crus fold in a concha bowl.
4. (Original) The communication device of claim 1 wherein the self-retaining element contacts skin inside a fold in a concha bowl beneath the inferior crus of the ear.
5. (Original) The communication device of claim 1 wherein the self-retaining element provides positive retention to the ear on an x-axis, a y-axis and a z-axis.
6. (Original) The communication device of claim 1 wherein the self-retaining element comprises spring properties.
7. (Original) The communication device of claim 1 wherein the self-retaining element is positioned approximately ninety degree with respect to the sound delivery tube.

8. (Original) The communication device of claim 1 wherein the self-retaining element is molded onto the sound delivery tube.
 9. (Original) The communication device of claim 1 wherein the self-retaining element comprises one of the following: an "S" shape spring curve, and a "J" shape spring curve.
 10. (Original) The communication device of claim 1 wherein the self-retaining element is flexible.
 11. (Original) The communication device of claim 1 wherein the self-retaining element is semi-rigid.
 12. (Original) The communication device of claim 1 wherein the self-retaining element is constructed from a material selected from a group consisting of: rubber, plastic, and metal.
 13. (Currently Amended) The communication device of claim 1 ~~wherein the ear comprises a pinna, a sulcus, and a concha, and~~ wherein the self-retaining element, when positioned on the ear, applies positive retention across the pinna of the ear between the sulcus and the concha.
-
14. (Original) The communication device of claim 1 wherein the communication device is wireless.
 15. (Original) The communication device of claim 1 wherein the communication device is wired.

16. (Original) The communication device of claim 1 wherein the housing has a first section that rests on a sulcus of the ear, and wherein the positive retention of the communication device to the ear results from a space between the first section of the housing and the self-retaining element.

17. (Original) The communication device of claim 16 wherein a dimension across the space between the first section of the housing and the self-retaining element is 0.118 inches +/- .054.

18. (Original) The communication device of claim 16 wherein the space between the first section of the housing and the self-retaining element becomes gradually smaller as the self-retaining element extends further away from the sound delivery tube.

REMARKS

The claims have been amended by rewriting claims 1 and 13. Claims 1-18 remain in the application. No new matter has been added. **The draftsperson's review of the drawings appears to be missing.** Corrections to the drawings, shown in "red," are enclosed for approval by the Examiner. In FIG. 5, mislabeled designator 218 has been relabeled as 220. FIGs. 3-6 have been amended to include designator 400 (supported by page 6, line 28 of the Specification. It is respectfully requested that the submission of corrected formal drawings be delayed until such time as the application is deemed to be in condition for allowance.

Reconsideration of this application is respectfully requested.

Rejection - 35 U.S.C. § 112, first paragraph:

Claims 16-18 were rejected under 35 U.S.C. § 112, first paragraph.

The Specification has been amended to incorporate the language of claims 16, 17, and 18 to overcome this rejection. No new matter has been added. Specifically, the "first section" described in claim 16 has been introduced and labeled by designator 318 on page 4 of the Specification in the paragraph located between lines 14-20. The Specification has also been amended on page 7, first paragraph with three additional sentences. Support for these three sentences is found in claims 16, 17, and 18.

Claim Rejections - 35 U.S.C. § 112, second paragraph:

Claims 13 and 16-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 has been amended to remove the body part language from its claimed format.

As to the rejection of claims 16-18, FIG. 3 has been amended to include designator 318 indicating the first section (also referred to as the concave inner surface on page 4, lines 17-20 as amended). Further support for the first section language is now found on page 7, lines 3-12 as amended. Accordingly, the rejection under § 112, second paragraph ~~second is now overcome.~~

Claim Rejections - 35 U.S.C. § 102(b):

Claims 1-7, 9-13, and 15-18 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Henderson '923 or Jelonek et al. '830.

Claim 1 has been amended to include the term “non-occluded” to more clearly define the manner of sound delivery to the ear. Support for this amendment is found on Page 5, lines 7-12. Both of the cited references are based on an “occluded” (plugged) ear canal opening, which is required in the hearing aid market to eliminate external sound from entering the ear canal and resulting in regenerative feedback (see Henderson, FIGS. 9, 10, & 13. See Jelonek, FIG. 1). The occluded nature of the cited references completely closes off the ear to outside air, creating a humid environment conducive to excess perspiration. Due to this perspiration, the degree of retention is compromised. This disadvantage was discussed in Applicant’s Background section on page 2, line 12. Applicant’s invention provides for a non-occluded (not plugged or impeded) ear canal opening, to permit normal stereo hearing, with no ambient sound blockage. Accordingly,

the rejection under § 102(b) is overcome. Claims 2-18 provide further limitations to what is believed to be an allowable claim 1 (as amended) and hence are also in condition for allowance.

Claim Rejections - 35 U.S.C. § 103:

Claims 8 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Henderson '923 or Jelonek et al. '830

Claims 8 and 14 are dependent claims that provide further limitations to what is believed to be an allowable claim 1. Hence, the rejection of claims 8 and 14 are in condition for allowance.

Accordingly, this application is believed to be in proper form for allowance and an early notice of allowance is respectfully requested.

Please charge any fees associated herewith, including extension of time fees, to 50-2117.

Respectfully submitted,

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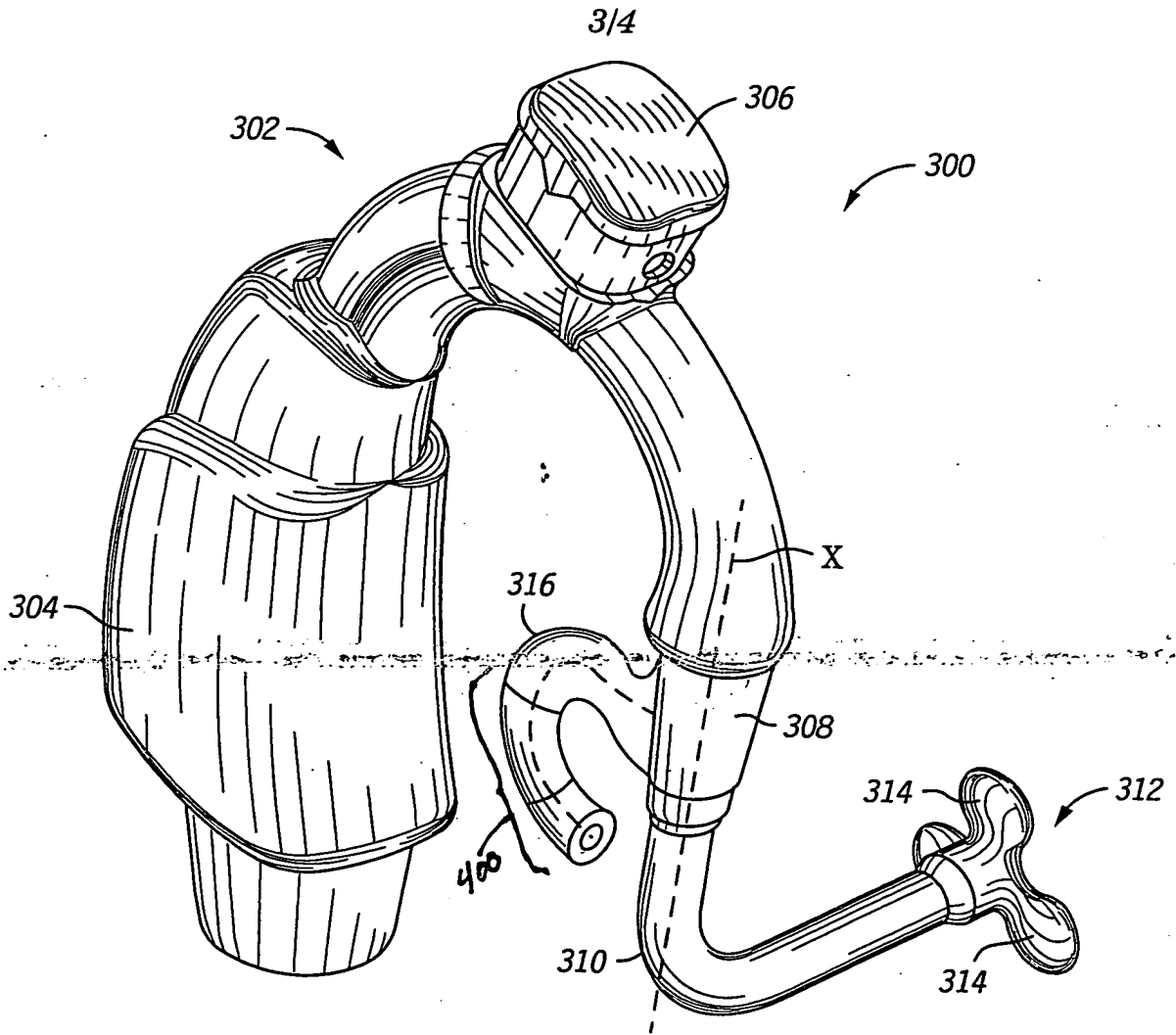


FIG. 3

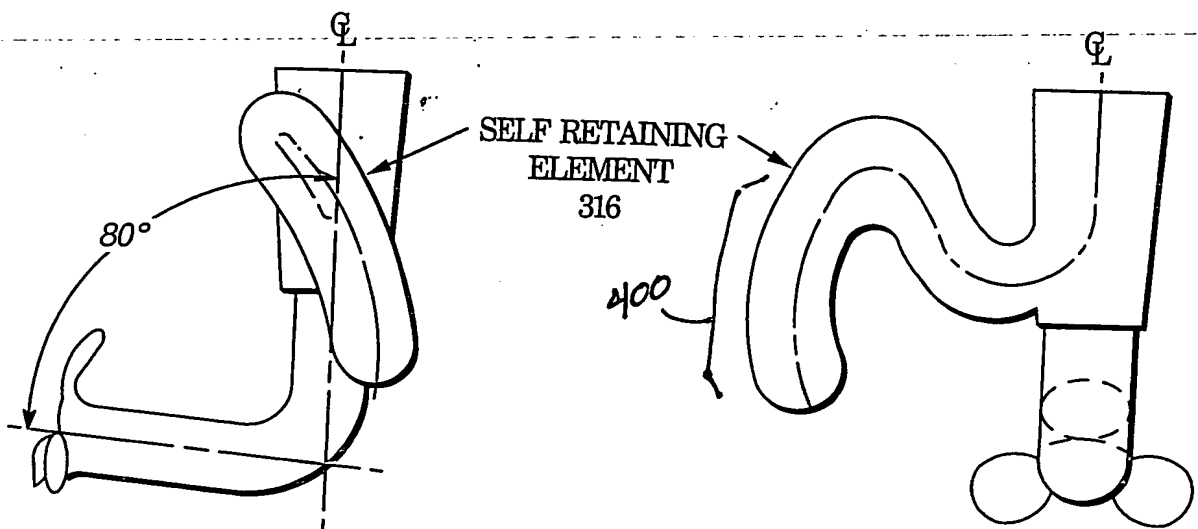


FIG. 4

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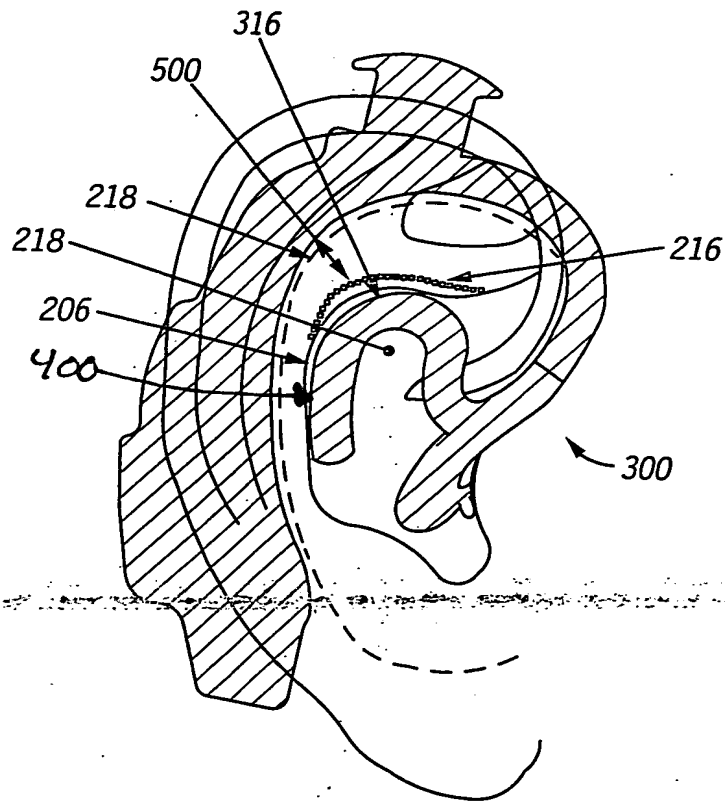


FIG. 5

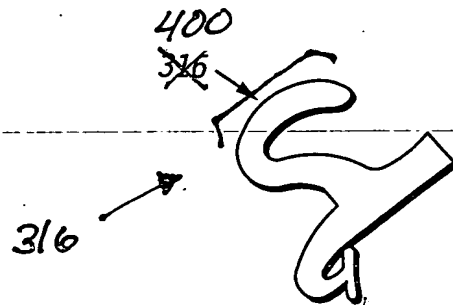


FIG. 6